Security Test

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Extern host site: Pella Corp.

Part I: General Overview of Business Family owned company who have been designing and manufacturing windows, doors, and home automation systems since 1925. Pella has had a long history of always being on the cutting edge of window and door technology and strives to continue to be an industry leader.	**Part II: Job Specifics** Test Lab technicians- Test various functions of windows and doors to ensure a quality product reaches the end consumer. These technicians not only test windows and doors but build fixtures and jigs to simplify testing processes. All of these jigs a fixtures are designed to meet test standards set by WDMA.
Part III: Introduce the Problem You are a test lab technician tasked with testing the security of a newly designed door and jamb system that is still in its prototype stage. Being this door is a prototype the normal security test structure cannot be used and you must design and build a structure to perform these tasks on a door and jamb section	**Part IV: Background** ● How test will be conducted ● Loads structure must contain ● Strength of structural components ● Cylinder length and mounting parameters ● Door Installation procedures
Part V: Business Solution Pella would have a test lab tehnician build a new testing apartus using steel tubing and THK rail for adjustability for future small prototype door. This rack would use a movable cylinder mounted on rails to apply pressure at the various points and provide a readout from a load cell.	**Part VI: Student Solutions** Students should develop a rectangular frame to install the door in with a wide base for support and arms to attach cylinder with load cell attached for testing. Students use of materials and structure may vary depending on design ideas.